Spring 2003 - # 71

blueprint

Energy Efficiency and Demand Analysis Division

New NFRC Label – page 3 / The Webcast – pages 4 & 5

QUESTIONS and ANSWERS

RESIDENTIAL

Q **Do return ducts have to be insulated if they are located in shafts that are inside the buildings thermal envelope?**

A No, ducts do not need to be insulated if they are inside the buildings thermal envelope. Standards Sections 124(a) and 150(m) talks about requirements for air distribution ducts and plenums.

NONRESIDENTIAL

Q **Can you install a thermostat that cycles the ventilation fan off when the temperature setpoint has been satisfied (sometimes called "a residential thermostat") in a nonresidential building?**

A No, Standards Section 122(c)1 requires the minimum outside air ventilation, appropriate to the occupancy type of the building, to be provided continuously when the space is occupied in nonresidential buildings.

Q **Do the Energy Commission's Building and Appliance Standards apply to federal military bases?**

A **Building Standards** Construction on federal land (bases, federally-owned office buildings, etc.) does not have to comply with the building standards. Buildings that are leased by the federal government, however must comply with the building standards.

Appliance Standards The appliance standards apply if the appliance is sold or offered for sale in California.

...continued on page 2

Questions and Answers

NONRESIDENTIAL

CONTINUED FROM PAGE 1

Q

What are the new requirements for distribution transformers?

A

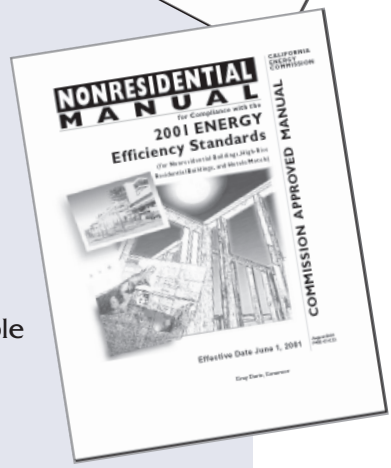
Enforcement of the energy efficiency standards for distribution transformers is within the authority of both the California Energy Commission and local building officials. The Commission enforces the standards at the point of retail sale through appliance regulations found in Title 20. Local building officials enforce the standards through their authority over "Title 24 construction." That is, local building officials are responsible for enforcing the state's energy efficiency standards for buildings, which are found in Title 24 of the California Code of Regulations.

In 2002 the Energy Commission adopted Appliance Efficiency Standards for such devices. The standards appear in Section 1605.3(t) of Title 20 of the California Code of Regulations. The standards apply only if the transformer is a "low-voltage dry-type distribution transformer," which is defined as "a transformer that has an input voltage of 600 volts or less, that is air cooled, and that does not use oil as a coolant." The standards apply only to units manufactured on or after March 1, 2003.

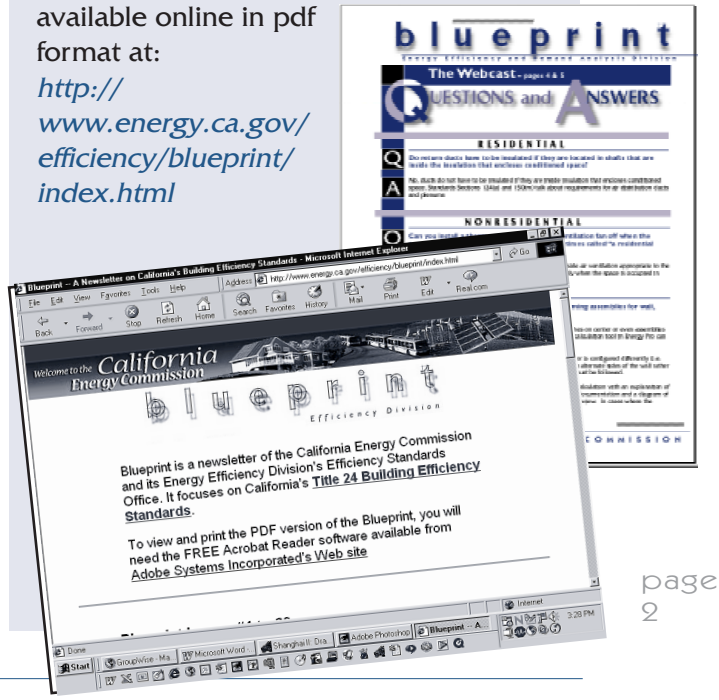
More than a dozen types of transformers are excluded from the definition of "low voltage dry-type distribution transformer." These excluded types are defined in Section 1602(t) of the Commission's Appliance Efficiency Regulations (Title 20). To locate excluded transformers go to: *www.energy.ca.gov/appliances_rulemaking/notices/index.html* and click on the link for *"April 16, 2003 Appliance Efficiency Regulations (Adobe Acrobat PDF file)."*

Did You Know?

Copies of the Residential and Nonresidential Manuals are available for $40.00. Building officials and jurisdictions can order complementary copies. To order call the Energy Commission Hotline: 1-800-772-3300.



The Blueprint is available online. An Index to Blueprint Issues 1 through 69, as well as current and past issues of the Blueprint are available online in pdf format at: *http://www.energy.ca.gov/efficiency/blueprint/index.html*



Everything You Need To Know About NFRC's New Label

By James Benney, NFRC Director of Education

Since its inception in 1989, the National Fenestration Rating Council (NFRC) has developed many industry standards and administered a program that has provided labels to communicate energy ratings for literally millions of windows, doors, skylights and curtain wall systems. NFRC is the organization recognized by the U.S. Department of Energy – and the State of California – for determining the energy performance ratings of fenestration products.

The fenestration industry has embraced new technology (glass coatings, gas fills, warm-edge spacers, thermally improved materials, etc.); as well as using computer programs for evaluating new products and materials.

The cornerstone for communicating the performance of windows and these advances in technology remains the use of the NFRC label. Manufacturers need to be able to show how the new technology has improved their products performance. It should be noted that these improvements are not visible to the naked eye. No one can see a low-e coating or an argon filled IGU. No one can tell the thermal effectiveness of a framing system or spacer system by just looking at it! It was important to have a label to show customers (architects, homebuilders, homebuyers and building officials) the value-added performance of these products.

Changes to the NFRC Label

It should be noted that NFRC ratings are based on specific product sizes, depending upon the product type and operator (a swinging patio door vs. a casement window, for example). Product ratings were developed for specific sizes for two reasons – To allow for an apples-to-apples comparison of similar products in the marketplace; and for a simple determination for code compliance. It would be impossible to develop prescriptive fenestration requirements without standard size ratings.

It was well understood in the industry that window performance changes with product size. So what should that standard size be? When NFRC first developed the label, the fenestration industry was fragmented. There were strong feelings one way or the other – (i.e., large size vs. small size vs. typical product size). Without a single mandate, NFRC compromised and came up with two sizes - one smaller, one larger. This of course meant that each label would show two performance ratings for a product. While this compromise helped to ease the struggle at NFRC, it certainly was not helpful in the marketplace. NFRC was constantly barraged with questions from customer groups over why there were two ratings on the label.

Finally, in 2002, after years of discussion, the industry agreed upon one rating size for each type of product. As a result, NFRC approved a new label design. The new label will greatly assist code officials and energy service providers with a tool for determining compliance with code or program requirements.

Of course there will be an interim period where both labels will be seen in the marketplace; but in the near future, coming to a market near you, will be the new and improved NFRC Label.

The January 15th Live Webcast from SMUD was a true success!

Commissioner Robert Pernell from the Energy Commission led off the day's events

During the Webcast on Residential Energy Efficiency Standards more than 500 computers with multiple viewers were logged on, and about 100 people were in attendance at Utility and Commission-sponsored off-sites around California. It is estimated that 1000 or more different people actually viewed part or all of the day long training event. Many building departments and other groups showed the Webcast in their training rooms or break rooms.

We have received enthusiastic feedback on the presentations made by the instructors, Doug Beaman, John Proctor, Rick Chitwood, Scott Johnson, Tom Hamilton and Rob Hammon. These expert energy consultants provided timely information on the Standards for building department personnel and others who were online and at all of the off-site locations.

The Webcast host was Steve Easley. The presentations featured on the Webcast on Residential Energy Efficiency Standards were:

- Overview of the 2001 Residential Standards – Major Changes with Douglas Beaman.
- HVAC, TXV, Refrigerant Charge, and Air Flow, presented by John Proctor.
- Plan Check – Overview with Douglas Beaman.
- CHEERS presented by Tom Hamilton & Scott Johnson.
- Insulation (co-funded by NAIMA) with Rick Chitwood.
- Inspection – Getting the "Big" items presented by Douglas Beaman.
- Fenestration by Douglas Beaman.
- The Building Industry and Building Departments –"Working Together for the Solutions" by Rob Hammon.
- Update on 2005 Standards by John Eash.

Various streaming videos from the Commission's Online Training Series were featured throughout the day.

The entire Webcast audio/video was recorded along with the synchronized Power Point presentations. The Webcast has had viewers from interesting places such as Poland, Brussels, Belguim; Anchorage, Alaska; Tehran, Iran ; Nanjing, China; Mililani, Hawaii; Wausau, Wisconsin; Old Hickory, Connecticut; Austin, Texas and Chicago, Ill.

Part of Scott Johnson's presentation on ducts.

Steve Easley worked hard all day as the Moderator and Host of the Webcast.

The Recorded Webcast is Now Available Online at www.energyvideos.com

The Webcast, including the online quizzes, can be viewed at www.energyvideos.com, at least until the end of June 2003. Just follow the instructions at the website. If you have difficulty viewing the webcast contact John Eash at jeash@energy.state.ca.us or the Energy Hotline at (800) 772-3300.

You can also view the more than 100 training videos located at the same website. You can download any of the videos (except the Webcast) by viewing in "Quicktime" and right-clicking where directed. These videos are intended for use by building departments, builders and consumers.

Some of the technical equipment used by ishow and D&R International to make the Webcast possible.

Stay Tuned...

Let us know if you would like us to provide another Webcast. We are considering a webcast on the Nonresidential Energy Efficiency Standards but need your input to determine if a demand exists for this kind of training. You can e-mail John Eash at jeash@energy.state.ca.us to comment or for information on the Online Training Series or Webcast.

The Commission's John Eash, who was the driving force behind the event.

"Congratulations on getting the webcast on-line! It's really, really neat! And we are posting a counter notice that the site is available and open for business! Great work! Cutting edge but approachable and easy to use. For those of us that don't have streaming video access to all parts of our buildings, will the new videos be available sometime on CD or for actual download from the website? Again, thank you for your work. It has really made a difference in the way we do things."

– Gerry Quast
Plans Examiner/Training Coordinator
for the Building Division
of the City of Anaheim
in an e-mail.

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Editor

Special Thanks to:
Suzie Chan, Tav Commins, John Eash, Gary Flamm, Valerie Hall, Elaine Hebert, Rob Hudler, Bill Pennington, Betty Chrisman, Jim Holland, Bryan Alcorn, Maxine Botti, Rob Schlichting, and Mazi Shirakh for all their help in creating this edition of the *Blueprint*.

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Publication number P400-02-022

Printed on recycled paper

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The inside story:

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The New URL for Online Training Videos is www.energyvideos.com

For any questions or additional information relating to the new Standards contact the Energy Hotline at (800) 772-3300.

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